39-43, and 46 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,668,890 to Winkelman. In his analysis under section 102(e), the Examiner also addressed claims 48, 49, 50, 55, and 57. Accordingly, those claims also appear to be subject to this rejection. The Examiner further rejected claims 2, 3, 8-11, 14, 16, 19, 20, 35, 36, 50, and 51 under 35 U.S.C. 103(a) as being unpatentable over Winkelman in view of U.S. Patent No. 5,844,699 to Usami et al., and rejected claims 4, 5, 21, 22, 37, and 38 under 35 U.S.C. 103(a) as being unpatentable over Winkelman in view of Usami et al. and U.S. Patent No. 5,268,754 to Van de Capelle et al. Finally, the Examiner indicated that claims 12, 13, 15, 28, 29, 31, 44, 45, 47, 53, 54, and 56 would be allowable if rewritten in independent form.

Applicants respectfully traverse the rejections under sections 102 and 103, at least to the extent the Examiner may consider them applicable to the amended claims. None of Winkelman, Usami et al., and Van de Capelle et al. discloses or suggests a color characterization technique that involves converting first color values into second color values in a device-independent color coordinate system using a white reference vector and a black reference vector, wherein the white reference vector is adjusted using the black reference vector and the first color values, as set forth in Applicants' claims. Moreover, the applied references provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Winkelman is directed to a method for analyzing density and color cast of scanned images to determine appropriate image processing parameters for conversion and reproduction. The Examiner characterized Winkelman as disclosing the conversion of first color values (R, G, B) into second color values (L*, a*, b*) using first and second color reference values. According to the Examiner, Winkelman discloses a number of different color reference values that are used in the conversion, including the following:

CIEXYZ reference color 13 (i.e. reference color X, Y, Z)

lookup memory table (LUT) 26;

reference white (transmission or reflection 1.0);

absolute black (transmission or reflection 0.0); and

Xn, Yn, Zn as white reference of the desired white type.

The Examiner asserted that any of the above "reference color values" described by Winkelman could be interpreted as first and second reference values, as claimed. On this basis, the Examiner further characterized Winkelman as disclosing adjustment of first reference values using second reference values in terms of adjusting reference color values X, Y, Z using reference color values R, G, B.

The logic in the Examiner's reasoning is unclear to Applicants. In particular, the Examiner seems to have interpreted the R, G, B values of Winkelman as providing both "first color values" and "second reference values." Similarly, according to the Examiner's reasoning, the X, Y, Z values of Winkelman are both "second color values" and "first reference values." The result, when applied to Applicants' claims, is circular and confusing: R, G, B values ("first color values") are converted to X, Y, Z values ("second color values") using X, Y, Z values ("first reference values") that are adjusted using R, G, B values ("first reference values") and R, G, B values ("first color values")?

Clearly, Applicants' original claims required conversion of first color values to second color values using first and second reference values that are different from, i.e., not the same as, the first and second color values. With this realization, the Winkelman reference cannot support a prima facie case of unpatentability. Nevertheless, to avoid further confusion and expedite prosecution, Applicants have amended the claims. Specifically, the amended claims now specify that the first and second reference values comprise a white reference vector and a black reference vector, respectively.

With this amendment, the question of whether Winkelman teaches the use of first and second reference values or not is a moot point. The Winkelman reference clearly does not disclose or suggest the conversion of first color values into second color values using a white reference vector and a black reference vector, wherein the white reference vector is adjusted using the black reference vector and the first color values, as set forth in all of the pending claims. Winkelman also fails to provide any teaching that would have suggested the desirability of such a feature.

Like Winkelman, Usami et al. and Van de Capelle et al. also lack any teaching that would have guided one of ordinary skill in the art to employ a white reference vector that is adjusted using a black reference vector and the color values to be converted. Moreover, the

Usami et al. and Van de Capelle et al. references provide no teaching that would have suggested any reason to incorporate such a feature in the Winkelman process.

The Examiner regarded Usami et al. as disclosing the calculation of a "second reference value (e.g., black color) . . . as a function of recording medium characteristics (paper ink absorption)." Notwithstanding such a teaching, Usami makes no mention of the adjustment of a white reference vector using a black reference vector and color values to be converted, as required by all of Applicant's claims. Indeed, the Usami et al. excerpt noted by the Examiner merely concerns the well-known UCR process whereby neutral C (cyan), M (magenta), Y (yellow) ink combinations are replaced with K (black). UCR has little, if any, relevance to the claimed invention.

The Examiner cited Van de Capelle et al. as teaching the use of a black reference vector having a maximum value in the black channel and minimum values in at least one additional channel. In reality, at column 6, lines 65-68, to column 7, lines 1-16, Van de Capelle et al. simply refers to the gamut boundary values of a three-dimensional color space. Even if such a teaching were pertinent, Van de Capelle et al. nevertheless fails to disclose or suggest the other features required by Applicants' claims, i.e., adjustment of a white reference vector using a black reference vector and the color values to be converted.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration. The Assistant Commissioner is authorized to charge any underpayment and credit any overpayment to Deposit Account No. O9-0069.

Respectfully Submitted

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